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THE MISSING DIMENSION OF U. S. ✓
DEFENSE POLICY: Force, Perceptions
and Power (Revised)

ESSEX CORPORATION ✓
Edward N. Luttwak

February 1976

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I. The Problem.

In comparing the overall strategic conduct of the United States with that of the Soviet Union, a sharp contrast emerges between the obvious Russian emphasis on the psychological dimension of military policy, and the equally obvious neglect of this dimension in the military policy of the United States.

The essentially psychological concept of deterrence has been prominent in U.S. defense planning for many years, and yet force-structure and weapon-system decisions are still made without explicit consideration of the impact of these decisions on others' perceptions of U.S. military power. For example, the entire structure of the Soviet armed forces reveals the intention to capitalize systematically on the widespread tendency to evaluate military power in simple numerical terms; American force planners by contrast, tend to be guided by organizational preferences for high unit-quality, and tend to discount numbers per se. Nor are such preferences a reflection of objective circumstances, notably the high cost of U.S. military manpower. In the capital-intensive strategic-nuclear sector, for example, it has been U.S. policy to remove weapons from the published inventory as soon as they failed to meet the most exacting criteria of modernity. As against

this, it has been Russian policy to retain in the inventory any weapon which could still be represented as serviceable. As a result, some 980 ICBMs, 640 SLBMs and 322 B.52 bombers¹ have been withdrawn from U.S. operational forces over the last decade and a half, while the Soviet Union has retained in service virtually every strategic weapon it had ever deployed, with the exception of a small number of primitive ICBMs, and a few bombers.

Owing to these divergent deployment policies, by the time the SAL-1 accords were signed in 1972, the Soviet Union enjoyed a clear advantage in the number of deployed ICBMs -- and it is now evident that this one index of strategic power was treated by political observers the world over as a crucial element in the Soviet attainment of "strategic parity." Moreover, the same purely numerical factor was prominent in the arguments used by U.S. negotiators to answer criticisms of the unequal SAL-1 ceilings.

It is apparent that there were sound strategic, economic and technical reasons for withdrawing weapons such as the Atlas ICBMs from the operational inventory. Similarly, there

¹Inclusion of the B.47 and B.58 bombers also withdrawn from service would heighten the contrast, but for technical and geographic reasons these weapons cannot be treated as equivalent to the Tu-16s which are still in service with the SAF.

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were sound reasons for abandoning reliance on the B.47 bomber force.² In any event, by the time the SAL negotiations were in progress neither Atlas ICBMs, B.47s nor the other older weapons remained in the inventory to keep or withdraw. But the Minuteman I force was still intact. At a time when it was already perfectly obvious that the force-ceilings of a SAL accord would reflect primarily the numerical status quo, U.S. decision-makers nevertheless chose to remove the Minuteman Is from the inventory to make way for the Minuteman 3s, instead of merely adding the new weapons to the old, as the Russians were doing concurrently with the SS-11s and SS-9s.

There was an obvious and critical inconsistency in U.S. policy, which denied all importance to purely numerical factors in the context of force-structure decisions, and which then proceeded to give full diplomatic recognition to "mere numbers" in the context of international negotiations -- precisely the arena where force is, or is not, translated into effective political leverage.

²The 54 Titan Is and 126 Atlas liquid-fuel ICBMs withdrawn from service were vulnerable and could not have been kept serviceable without continuing and high maintenance costs; the B.47s could not be represented as being operational force without the costly (and diplomatically difficult) maintenance of an overseas base system. Moreover, by the mid-fifties forward-basing had been recognized as fatally vulnerable in a deterrent force. In any case, U.S. strategic superiority by every index of measurement was very great at the time and quite unequivocal even without the retention of these older weapons. None of these objections apply to the argument that the unilateral withdrawal of the Minuteman Is was a gross error of policy.

The immediate effect of the decision to withdraw the Minuteman Is unilaterally was to set the stage for the advent of Russian numerical superiority in the ICBM sector of the strategic competition -- a superiority formally registered and recognized in the SAL-1 accords. The broader impact of the decision was manifest in the transformation of third-party perceptions of the strategic balance. Had serious consideration been given to the diplomatic and political consequences of the "managerial" decision to withdraw the Minuteman I force, it seems unlikely that the decision would have stood unchallenged at the national level.

Even if it was much cheaper to convert silos rather than to build new ones, a good case could have been made for accepting the higher cost of building new silos for the Minuteman 3s. Further, even if these costs were not accepted, it should have been possible to find an interim solution, such as the maintenance of the Minuteman Is in some form of "active storage," pending the outcome of the SAL-1 talks. It should be noted that the Soviet Union extracted an important concession (SLBM replacement) for the withdrawal of its older ICBMs, under the terms of article III of the Interim Agreement on the Limitation of Strategic Arms.

In retrospect, the Minuteman I decision seems inexplicable to the outside observer in its failure to take diplomatic considerations into account. But if the Minuteman I decision

is viewed in its domestic political and organizational context rather than in terms of a monolithic rationality, there is nothing inexplicable in what was done. Indeed, those familiar with the course of events would find the present discussion quite unrealistic.

In USAF and sub-USAF decision-making, in OSD, and between OSD and the USAF, the whole issue of third-party perceptions, the whole question of the importance of "mere numbers" and even the requirements of SAL diplomacy vis a vis the Soviet Union simply had no place. While full attention was given to the engineering and financial factors involved, while the undertow of tacit arms control goals strongly influenced OSD, while the bureaucratic preferences of the USAF guided its conduct, perceptual and diplomatic factors were largely excluded from consideration. Given the organization and modus operandi of government in 1959-1972, it was only natural that international negotiations over strategic arms, and decision-making over the deployment of these same strategic arms should have been insulated from one another.

While there were a good many disparate factors at work in the Minuteman I decision, there can be little doubt that a major common denominator was the general tendency to ignore or at least discount the importance of perceptual factors. The notion that numbers alone, or any other "visible" indices, had a certain definite value in themselves could hardly have

influenced decision-making since the perceptual dimension of deployment policy is refractory to quantitative evaluation -- unlike the engineering or financial dimensions -- and indeed it would have to rest on vague and unsystematic propositions about what others may or may not think about American strategic power. In a decision-making process that became increasingly mechanistic, particularly after 1961, in which greater and greater emphasis was placed on comparisons of variables that are easily quantifiable, wholly unquantifiable notions could hardly play a significant role. Even if admitted into the decision-process, which rarely happened, unsubstantiated contentions about the psychological (and therefore political) repercussions of force-structure or weapon-system decisions were thereafter discounted to the point of insignificance.

It is important to recognize the generality of the phenomenon. With a consistency that would be remarkable if it were accidental, Russian force-structure decisions have tended to maximize the perceptible manifestations of Soviet military power, while an equally consistent neglect of perceptual factors is evident from the character of American force structures. Far from being an isolated exception, the contrast between the unilateral withdrawal of the Minuteman I force and the retention of the Soviet SS-7s and SS-8s is reproduced in virtually every sector of military power, from the number of army divisions to the armament of surface combatants.

Under present plans for example, the U.S. Army is to have a total of 16 active divisions, while at the last count the Soviet Army had more than ten times as many, 168. The overall manpower ratio, by contrast, is of the order of 2.15 to 1. It is known that only about one-third of the Russian divisions are deployed continuously at full strength, so that a direct comparison would have to include American reserve and National Guard forces also.³ Moreover, U.S. Army divisions are, of course, much larger than their Russian counterparts. If reorganized on Russian lines, with smaller divisions and still smaller division-slices (i.e. with diminished manpower in support and service forces outside divisions), and with the same proportion of under-strength units, the U.S. Army could deploy roughly 78 "divisions" with its present manpower level, thus reducing very considerably the apparent numerical imbalance between the two armies.⁴

While some have advocated such a Soviet-style organization for purely military reasons, there is no reasons to believe a priori that the

³ A comparison of maneuver battalions in both active and reserve forces is found in J. Record, Sizing up the Soviet Army (Washington: The Brookings Institution, 1975) p. 15. The FY 1977 U.S. Army is to have 372 battalions of all types as opposed to 1,683 for the 1974 Russian army, a ratio of 4.5:1, as opposed to the 10.5:1 division ratio and the 2.15:1 manpower ratio. (Russian battalions are, of course, smaller.)

⁴ Such a Soviet-style reorganization would of course require much additional equipment, especially tanks and APCs. And the equipment would also have to be Soviet-style, for otherwise its maintenance would require manpower in excess of that available for the task in the post-reorganization structure -- and this in turn would require further changes in tactical deployment methods ... and so on. There are of course any number of less radical reorganization schemes which would not entail such complications.

ground-force organization of the Soviet armed forces is in fact strategically and tactically superior to the American. In particular, it has not been demonstrated convincingly that the Russian emphasis on ready combat power as opposed to sustained combat capability, or Russian methods of whole-unit replacement and in-unit training are preferable to American priorities and methods. There is thus a prima facie case against the great strains and costs of such a reorganization -- if strategic and tactical effectiveness are the only "outputs" to be maximized.

But if the comparison includes the perceptual-political dimension, it is no longer possible to reserve judgment on which of the two force-structures is "better": it is abundantly clear that ever since 1945 the Soviet Union has gained great political net benefits from the perceived superiority of its ground forces over those of the United States in Europe and those of NATO as a whole.⁵ And it is equally obvious that these images

⁵ To be sure the high profile of Soviet ground force capabilities also entailed costs. Any projection of images of military power in excess of actual capabilities will tend to evoke countervailing responses also in excess to the level of actual capabilities. Thus it may be argued that NATO would have been even less cohesive, and European military preparedness even less adequate had Soviet ground-force capabilities been correctly estimated. But the Soviet leaders obviously calculated that there was a net balance of political advantage, as others have done throughout history when choosing to augment their forces. The presumption is always that a given increment in capability will evoke a less-than-proportionate reactive counter-deployment on the other side. The presumption may be wrong of course. For two recent surveys, see R.J. Vincent, Military Power and Political Influence: The Soviet Union and Western Europe, Adelphi Papers, no.119 (London: IISS, 1975) and Ken Booth, The Military Instrument in Soviet Foreign Policy 1917-1972 (London: Royal United Services Institute for Defence Studies, 1974).

of a superior Russian army have derived from, and have reflected, the superior number of Russian divisions more than any other single index of ground-force capability.⁶

In countless official statements reference has been made to the threat posed by the "160 Soviet divisions" or "200 Warsaw Pact divisions."⁷ These were, of course, Western statements, in almost every instance aimed at domestic audiences in conjunction with the annual budgetary struggle over defense expenditure. But the Russians for their part have also used their information channels to amplify and project images of a war-winning Soviet army.

In the 1950s, these images of Russian predominance on the ground served to counteract equally prevalent images of American superiority in air power and technological superiority in general. In the 1960s, such images served to counteract perceptions of American superiority in strategic-nuclear power. Now that a rough parity is generally attributed to the strategic-nuclear forces of the two sides, images of a vastly superior Soviet ground force capable of overrunning Western Europe still persist.

⁶ Virtually every press article touching on the issue includes a comparison of Warsaw Pact and NATO military strength case in terms of divisional counts; few articles proceed to mention other indices (e.g. manpower totals or quality). Hardly any compare aggregate troop quantity and force quality.

⁷ E.g. successive British Defence White Papers and U.S. "posture statements."

There is no need to summarize here the post-1945 history of East-West relations in Europe in order to demonstrate that the Soviet Union has gained more than a mere psychological satisfaction from the widespread impression that its ground forces were vastly superior -- by orders of magnitude -- to those of the West. By translating what was at most a small measure of actual tactical superiority into the appearance of overwhelming strength, the Soviet Union has made tangible gains in the diplomatic arena, and continues to do so.

In the absence of conflict, the political shadow cast by European perceptions of Russian superiority on the ground sufficed to induce Western governments to make important concessions to the Soviet Union, accommodating Soviet demands that would otherwise have been rejected out of hand, or worse, ignored. The impact of this perceptual advantage has been manifest across the full range of East-West interactions in Europe, from the status-of-Berlin negotiations to the conduct of West European trade relations with the Soviet Union. It is of course difficult to disentangle the multiple factors involved in the conduct of such relations. But neither is it essential for the argument to do so: the central fact that should never be lost sight of is that the Soviet Union remains much less important than, say, Italy. As a source of raw materials, it is quite outclassed in the energy sector by any one of several Persian Gulf oil exporters, and in the food and fibre sector, by the United States. As a source of investment capital and technological know-how for Europe, the Soviet Union ranks with Liechtenstein rather than with, say, Austria. Hence the unique importance of military power as a constituent of overall national power for the Soviet Union.

The great factor which the leaders of Western Europe have had to contend with is the purely military strength of the Soviet Union, and they have done so by a mixture of deterrence and conciliation.⁸ In the latter lay the payoff as far as the Russians were concerned.

It may be argued that in making concessions to the Soviet Union -- the concessions which translated Russian military strength into actual political leverage -- the leaders of Western Europe were not being deluded by false images of Russian superiority on the ground, but were rather motivated by realistic appreciations of the "true" balance of military power. According to this line of argument, the fact that the Russians deployed their ground troops into many divisions while U.S. and NATO forces were organized in fewer and larger divisions, was quite irrelevant, for policy-level appreciations of the balance of power were not based on misleading divisional counts but rather on "actual" Russian capabilities, as well as on the imputed propensity of the Soviet Union to initiate a conflict.

Common sense would suggest that the national leaders of sophisticated European nations could hardly make an error so crude as to compare units that were quite unequal. But against this presumption there is a mountain of

⁸ It is understood that the significance of perceived military capabilities is weighted by the imputed propensity of the Soviet Union to initiate a conflict, which is logically a function of the imputed willingness of the Soviet Union to accept the damage that conflict would inflict. But the full implications of this last logical connection may not be recognized in perceptual-political terms.

⁹ NATO has of course served to restrict the degree to which the Soviet Union has been conciliated rather than deterred; in its absence, and without any actual use of force on the part of the Soviet Union Western Europe could otherwise have been "finlandized," with each European country, making the best terms it could with the Soviet Union.

evidence¹⁰ which demonstrates beyond doubt that the terms of the comparison are almost always much closer to those suggested by simple divisional counts than, say, manpower counts.

Comparisons of NATO and Warsaw Pact ground capabilities based on the single index of, say, the actual troop strengths available to the two sides would be grossly inadequate, but at least they would be meaningful, if only partially so. By contrast, comparisons of divisional counts alone are, strictly speaking, quite meaningless, given the order-of-magnitude inequality between the units thus being counted. And yet Western perceptions of Russian superiority on the ground do not correlate with the fractional advantages yielded by manpower comparisons but rather with much wider margins of advantage, which correspond quite closely to the meaningless comparison of divisional counts. The consistency of this pattern of perceptions is much too great to make the correlation coincidental.

Further evidence of the saliency of purely numerical indices is provided by another popular token of Russian superiority: the greater number of Russian battle tanks as compared to those of NATO in Europe. It is of course true that the Russian inventory of battle tanks has always exceeded by far that of the NATO forces in Europe, or indeed of NATO worldwide. But it is also true that in comparing the strength of a defensive alliance with that of a force poised for the offensive, a straight comparison of the number of battle tanks on each side is a very poor guide to the relative capabilities on the defense and the offense respectively. It would

¹⁰ See references given in note 5, above.

be more useful, for example, to compare Warsaw Pact tank capabilities with NATO anti-tank capabilities (in which tanks do play an important role). As another approximation, it would also be less misleading to evaluate Russian mobility forces as against NATO firepower, air support, and mine warfare capabilities. But in fact, such comparisons are hardly ever found in statements of "the military balance" in Europe. Instead, great prominence is given to the "40,000 tanks of the Russian Army," or to the "20,000 tanks" of the Warsaw Pact in Central Europe as opposed to the "7,000 tanks" of NATO in the central sector.¹¹

Quite apart from the tactical-operational considerations which invalidate the comparison, and aside from the inherent inadequacy of any comparison which excludes the "software" of morale, leadership and planning in counting the hardware, there is also the fact that Russian tanks have lost their former qualitative superiority, and are now on average

¹¹ These particular figures come from the 1974-1975 edition of the Military Balance (London: IISS, 1974) p. 93. As the present writer has pointed out elsewhere [The US-USSR Nuclear Weapons Balance (Beverly Hills: SAGE, 1974), pp. 1-6.] most published assessments of the military balance are cast in terms of materiel or human inputs, and not in terms of the capability outputs. It is understood that output comparisons require the complex and uncertain evaluation of actual combat capabilities, while input comparisons are conceptually simple and may even be definitive. This does not alter the fact that input comparisons are sometimes quite meaningless, and almost always grossly misleading.

considerably inferior to their British, West German and American counterparts.¹² In spite of all these reasons for rejecting out of hand the simple tank count as an index of military power, numerical tank comparisons are still featured as key indices of ground force capabilities. (Of late, perhaps, impressions of tank vulnerability based on [misleading] battlefield reports of the October War have served to counteract images of tank-centered Russian capabilities.)

Much the same state of affairs prevails in the naval sector of the super-power competition. From small beginnings, and in particular from a grossly inferior qualitative base, the Soviet Navy has grown in quantity and apparent quality to the point where it can no longer be dismissed as an antagonist to the US Navy. Indeed there have already been the first suggestions that the proper goal of US naval policy should now be to attain some form of "parity" with the Soviet Navy, or at any rate to concede some semblance of parity in the framework of bilateral naval limitation

¹² The T-54 series was superior in all respects to the Shermans still deployed concurrently in NATO armies and it was automotively superior to the Centurion and M-47, its fire-power being comparable to the latter if not the former. But with the advent of the M.60 series, the Leopard I and the Chieftain the average quality of Western tanks became much higher than that of the Russian T-54s, T-55s and T-62. The latter, still the leading Russian tank, is comparable to only one modern Western tank, the AMX-30 while being inferior in all important respects to the others in NATO service. In fact the T-62 is inferior even to Centurions (of 1944 design vintage) re-engined with diesel propulsion and up-gunned with the UK 105mm gun. There is no reason to expect that the new Russian tank, the T-72 will recapture the qualitative leadership once enjoyed by Russian tank designers. Of course a qualitative disadvantage can be offset by numerical superiority but this still does not endow purely numerical comparisons with any greater validity.

accords.¹³

Given the utter superiority of the US Navy when the naval competition first began in the immediate aftermath of the Second World War,¹⁴ and given the heavy investment in naval power made by the United States since then, the success of Russian naval planners has been spectacular, in some ways more striking than Russian achievements in other sectors of the arms' competition. Without for the moment questioning the capabilities of the Soviet Navy under realistic politico-military assumptions.¹⁵ it must be

¹³ For a (sophisticated) presentation of these ideas see Barry M. Blechman, The Control of Naval Armaments: Prospects and Possibilities (Washington: Brookings Institution, 1975).

¹⁴ It was a one-sided competition of course. While the US Navy virtually ignored the Soviet surface Navy in formulating its own deployment plans, the Soviet Navy appears to have been designed "relationally," so that from 1945 onwards it had first an anti-amphibious, then an anti-carrier and finally an anti-Polaris orientation. See Michael McGwire in The Soviet Union in Europe and the Near East: Capabilities and Intentions (London: Royal United Service Institution, 1970) pp. 33-51; and, *idem.* in Soviet Naval Developments: Context and Capability (Halifax N.S.: Center for Foreign Policy Studies, Dalhousie University, 1973) pp. 118-181.

¹⁵ In the presence of ECM and other countermeasures, the tactical value of a fleet equipped with non-reloadable SSM launchers (4-8 per ship) as the sole offensive armament has become questionable. Current and prospective countermeasures should reliably deflect or destroy the first N missiles fired at a defended force, as well as a proportion of further missiles. An American force equipped with countermeasures should be able to contend successfully with a Russian force of SSM warships, unless grossly superior. And, of course, once the Soviet warships launch their SSMS, they are virtually disarmed as far as anti-shipping capabilities are concerned. By contrast, US warships are to be equipped with reloadable SSM launchers, while carrier attack aircraft are already "reloadable." Perhaps by its technological leadership in SSM-warships the Soviet Union has paid the ordinary price of the pioneer: it has led the way into the missile age only to be overtaken by the advent of the electronic age, or rather the ECM age. (In this respect, the battle results of October 1973 may not be wholly invalid in terms of the much more capable SSMS deployed by Soviet fleet main units.)

recognized that in the eyes of the world the Russian Navy has achieved some sort of rough parity with the US Navy.

Once again, the perceptual factors that have served to form the impression in men's minds that the two navies have become somehow equivalent in power are denoted by their simple character: straightforward ship counts, and equally simple visual imagery, pseudo-qualitative in character. (Soviet warships are commonly described as "bristling with weapons.") Underlying these impressions, there may or may not be an appreciation of the inherent strategic advantage that geopolitical factors accord to the Soviet Navy, which may fulfill its major missions without "controlling" the oceans, needing only to deny use to the naval forces and commercial shipping of the United States and its allies.

Although design patterns on both sides have changed considerably over the last several years, and a process of convergence is now in evidence,¹⁶ the key factor which allowed the Soviet Union to compete with the United States at sea was precisely the divergence in design patterns. While the US Navy acquired ships of large (and increasing) unit size in each class, a

¹⁶ During the last several years, the reactive pattern in Soviet surface-combatant deployments has given way to an imitative pattern: the Soviet Union is deploying its first full-scale (but not full-size) Kiev-class aircraft carriers, while the US Navy, on the other hand, is to equip all its surface combatants with the Harpoon (or follow-on) SSMS. The sharp contrast between high-unit size US warships and low-unit size Soviet warships is now diminishing, and here too there is convergence, as exemplified by the deployment of the Soviet 9,000 ton Kara cruisers on the one hand, and the US 3,500 ton FFG-7s (ex-PFs) on the other.

process culminating in the design of "destroyers" of 8,000 tons' displacement, the unit size of Soviet warships was significantly smaller in each class, (Soviet warships of 6,000 ton displacement would be described as "cruisers"). Since habitability and endurance were sacrificed for ready combat capabilities, Soviet warships of inferior tonnage had class comparability with the larger US warships.

Moregenerally, while the United States continued to build much of its surface fleet around the fixed-wing aircraft and the carrier, much of the Soviet surface fleet was built around the non-reloadable SSM launcher, a weapon system much less demanding of tonnage for direct platform and escort needs. Finally, the Soviet Union still retains in service some 170 diesel-electric attack submarines, some quite new, while the United States has eliminated diesel-electric boats from the fleet. This has a major impact in shaping overall impressions of Soviet naval strength, in which the large number of Soviet submarines plays an important role.

It is obvious that by building smaller and cheaper units the Soviet Navy could have attained numerical parity with the US Navy, with a correspondingly smaller investment in ship construction. But numerical parity between the two fleets was not brought about by the economies of Russian ship designers but rather by the deliberate policy of American naval planners. Between 1969 and 1975 the number of US Navy vessels was reduced from 976 to 483 through the accelerated retirement of older and less capable warships. This drastic cut in the size of the fleet may or may not have been justified (the post-decision increases in operating costs certainly strengthens the argument in its favor), but right or wrong, the decision

implied a very strong preference for unit quality as opposed to mere numbers, and a strong preference for a fleet of fully operational warships over a much larger fleet kept at a lower level of readiness. These preferences presumably reflected strategic calculations about the respective worth of quality versus quantity--and not merely bureaucratic tastes and traditional preferences.

It is therefore noteworthy that at the very time when the decision to opt for quality was being implemented, official Navy spokesmen, and prominent retired officers, began to popularize comparisons of the US and Soviet fleets cast in terms of the total number of warships deployed, and even in terms of "ship-days" in particular areas of deployment.¹⁷ Considerable currency was for example given to assessments of the naval balance in the Eastern Mediterranean on the occasion of the October 1973 crisis which were stated exclusively in numerical terms.) Thus the very people who decided to reduce the numerical strength of the Navy in order to upgrade present and future quality, immediately proceeded to neglect qualitative factors altogether in popularizing straight numerical comparisons between the Soviet and US navies.¹⁸

¹⁷ Detailed reference would be pointless. Among countless examples official and otherwise, a recent ship-count statement is quite remarkable. In the Philadelphia Enquirer, October 30, 1975 (p.2B), RADM Wycliffe D. Toole, Jr. is reported as follows: "our Navy, today, has only 483 ships The Soviets now have about 1,700 ships that is gray-painted ships . . . some experts have put the real strength of the Soviet Navy at closer to 2,200 ships."

¹⁸ As a bureaucratic tactic, the quality-quantity switch may of course make ample sense. In terms of world-wide perceptions of US Naval power, it has been a disaster.

It is, or should be, perfectly clear that the US and Soviet navies cannot be usefully compared by simple ship-counts, or for that matter in terms of gross tonnage -- in which the US Navy remains superior by far. Given the profound structural differences between the two navies, not even detailed and sophisticated materiel comparisons are of any use. For example, the US Navy has a variety of offensive air capabilities as well as an opposed-landing capability of major proportions, while Soviet capabilities in these respects are still embryonic.

Nor can comparisons between the two fleets be made on the basis of the presumed outcome of naval battles. For one thing, the outcome of combat scenarios is predegermined by their tactical and strategic assumptions to a degree unique to naval warfare. More important, the utility of the two fleets is not determined only by what they could do to each other in the event of all-out warfare between the Soviet Union and the United States, but also by what they could do to others, in less improbable circumstances. For example, in the context of a "normal" Middle East crisis, the ability of the Soviet fleet to destroy the Sixth Fleet in an all-out "splendid" missile strike is simply irrelevant: in realistic political terms what matters is that the Sixth Fleet could land troops and provide air support (or air defense) for American clients in the area, while the Soviet Navy would have the sole option of launching an all-out attack against the Sixth fleet or else doing nothing of substance (unless the shipping of local powers is a

worthwhile target for attack or defense).¹⁹

All such considerations are now obscured by the prevalence of simplistic numerical comparisons. Reiterated endlessly in official statements before Congress, in speeches widely diffused by the media, these ship-counts have created images that have become international political realities, with manifest consequences on the attitudes of political leaders the world over. While from the Soviet Union there issues a steady stream of glorification of the Soviet Navy the message relayed by American media stresses the inadequacies of the US Navy and the loss of its former superiority; almost always the prime emphasis is on the ship counts. Whatever the pressures of the Congressional appropriations process, the public relations' stance of the Navy should come under close scrutiny, for these comparisons of U.S. and Soviet naval power though aimed at domestic opinion in fact shape third-party perceptions of the naval segment of the overall balance of military power. As such, these comparisons play a significant part in determining the respective standing of the two superpowers, and therefore their influence on the world scene.

¹⁹ The assumptions include (1) that the tactical structure of the two fleets virtually precludes selective attacks, for such would be bound to evoke all-out responses; and, (2) that the Soviet leadership could not accept the risks of an all-out attack unless core interests were at stake. See A.N. Luttwak American Naval Power in the Mediterranean Part III (Newport: US Naval War College, 1976), for an extended discussion.

II. Perceptions and the Political Utility of Armed Forces.

It was the conclusion of Part I above that, other things being equal, the Soviet style of deployment tends to generate a distinctly higher "output" of outwardly manifest military power than the American. At parity of inputs, Soviet forces of almost all types generally appear to be distinctly superior in quantity to the counterpart U.S. forces, without being perceptibly inferior in quality. In most sectors of the overall military competition, inputs are not of course equal and the difference in deployment styles thus serves to minimize the perceived inferiority of Soviet forces in low-priority sectors (e.g. strategic manned bombers)²⁰ while maximizing the perceived superiority of Soviet forces in high-priority sectors (e.g. ICBM, submarine and ground forces).

How is the utility of the respective armed forces affected by this basic divergence in deployment styles? If utility is assessed only in terms of military effectiveness, then the answer is contingent on complex and uncertain comparisons of expected combat outputs under a variety of tactical and strategic assumptions. No argument is here presented to suggest that Russian preferences for numbers versus quality, initial combat capability versus sustained capability, or shooting weaponry versus system ancillaries

²⁰ Almost invariably estimated at numerical face value as compared to US bombers. References to the vast qualitative differences between US and Soviet bombers are quite rare (e.g. in range-payload, defensive ECM, navigation and delivery sub-system accuracies). On the other hand, the strategic consequences of these qualitative differentials are admittedly much affected by the countervailing difference between the dense network of Soviet air defenses and the exceedingly thin air defense of the continental United States.

are more efficient militarily than the contrary American preferences. Hence, nothing can be said about the relative military utility of the two deployment styles.

If military forces existed only to provide combat capabilities for the actual conduct of hostilities, appearances and perceptions would be of no consequence. In such an imaginary world of purely physical realities, it would suffice to optimize combat capabilities according to whatever technical, tactical or strategic criteria seemed appropriate, without reference to perceptual considerations. But in the real world armed forces are not deployed exclusively in order to engage in hostilities, and their military uses do not exhaust their functions. On the contrary, it is the official doctrine that U.S. military forces are primarily intended to avert the necessity of engaging in hostilities, by deterrence. In order to deter, others must be persuaded -- by their own estimates of the likelihood and destructive impact of retaliation -- to desist from whatever actions deterrence is meant to avert.

More precisely, if deterrence is to be successful, others must arrive at the conclusion that the total cost (probability and cost) of retaliation exceeds the total gain (benefit and probability) of successfully making the move that is to be deterred. Since deterrence thus depends on others' calculations of costs, benefits and probabilities (including others' assessment of retaliatory capabilities), it is a perceptual-political phenomenon, and not a physical one. Objective reality, whatever that may be, is

simply irrelevant: only the subjective phenomena of perception and value-judgment count.²¹

Of late it has increasingly been recognized that deterrence is only a special case of a much broader phenomenon: the political application of military force, or "armed suasion." The latter can be deterrent or compellent, active (i.e. deliberate and directed) or latent (e.g. a naval presence) but in all its forms, the mechanism of armed suasion depends first of all on perceptions. Similarly, it has also been increasingly recognized that the continuous "output" of military forces is precisely the political output, as opposed to the insurance factor that military capability per se represents.

The political utility and military effectiveness of a given structure of armed forces exist in different worlds, one the world of appearances, impressions and culturally-determined value-judgments of international politics; the other, the world of physical reality in actual warfare.²² This

²¹ It is to be presumed that perceptions of retaliatory capabilities are in some manner connected to "real" capabilities, and that probability-weighted value judgments are also somehow connected to the "real" propensity of victims to strike back. But correlations between such "realities" and others' perceptions of the same may vary from zero to unity. A most important goal of the shift in strategic policy associated with the tenure of Secretary Schlesinger was precisely to deal with this potentially very dangerous uncertainty, by making it possible to redeem deterrence ex post facto through the selective use of strategic forces.

²² In terms of this metaphor, the Schlesinger strategy was intended to prepare for the contingency of an erosion of deterrence by bringing in the world of actual warfare (in small doses) to restore the balance of the world of perceptions and value judgments. For example, when deterrence was compromised by the underestimation of the victim's resolve to strike back.

fundamental difference, that is the difference between force and power, has only been clearly analyzed quite recently in the literature of political science.²³ Without delving into the complexities of the distinction, some of the more salient differences may be noted: force is definitive, its operation being physical, unambiguous and direct. Power, on the other hand, is indirect since it is a function of what others are willing to do in response to the tacit or explicit demands of the powerful. Power must be recognized by others if it is to function whereas force functions in of itself. Hence the centrality of perceptions in the workings of power, and their crucial role in determining the political utility of armed forces.

If "true" combat capabilities were always perceived correctly, then all distinctions between power and force, or between political utility and military effectiveness, would not matter at all from the viewpoint of defense planning. If there were perfect information, and if the assumptions under which forces are evaluated by all parties were identical, actual and perceived capabilities would always have to be identical also. But in reality there are many factors which tend to make for a significant and sometimes gross divergence between the two.

First and most obvious is the simple problem of information. Only a handful of the 142 governments now represented in the U.N. have independent means of intelligence collection with which to establish what weapons and what forces are deployed by the United States, the Soviet Union and any other power not immediately adjacent to them.

²³ See Appendix.

Second, there is the problem of evaluation. Even with perfect data on all the tangible aspects of military power, it remains impossible to arrive at uniform assessments of power balances, which convert materiel and human inputs into true potential combat capabilities, by taking due account of the intangibles of training, managerial efficiency, morale and leadership. Hardware comparisons are not merely inadequate on their own, but worse than useless. They do not so much convey only a part of reality as obscure reality altogether (E.g. Israel-Arab hardware-based assessments for 1948, 1956, 1967, 1973). On the other hand, as soon as evaluations go beyond the tangibles, they must include subjective assessments of genuine imponderables, such as leadership and morale. And when this is done--as it must be done -- evaluations will cease to be uniform even if all evaluators have access to identical data on the tangible components of military power.

Third, there is the problem of salience. The relevance of different types of combat capability differs sharply according to the roster of antagonists. The extensive anti-submarine capabilities of the U.S. Navy may be an important segment of the deterrent spectrum vis a vis the Soviet Union with its large submarine force. But the same anti-submarine capabilities would not count for much in deterring, say, Syria, which has no real submarine force at all. Even where the contrast is less extreme, it will readily be appreciated that the salience of a given array of capabilities differs from context to context, and specifically, that the physical reality of U.S. military capabilities breaks down into many separate perceived realities vis a vis as many separate antagonists.

For these reasons, the images of military capabilities perceived by others may differ greatly as between different perceivers. In general, perceptions will not be an accurate reflection of the "objective" reality of physical capabilities as revealed from time to time by the test of actual warfare.²⁴ It follows that the optimization of combat capabilities will not ensure simultaneously the optimization of the "power" projected by any given force-structure. Hence if the overall politico-military "output" of the nation's investment in its military establishment is to be maximized, explicit consideration must be given to the perceptual factor. Indeed the latter must be elevated into a major criterion of force-planning and deployment decision-making. In other words, in order to extract maximum benefits from U.S. military forces, their structure and modes of operation must be deliberately aimed at projecting images of power, in ways that are readily absorbed by the world-wide "audience" of political actors and opinion-makers.

²⁴ In sequence: the vast majority of competent observers were surprised by the swiftness of the Polish collapse in 1939, by the Anglo-French defeat in the Norwegian campaign in 1940, by the French collapse in the same year, by the Italian defeat in North Africa in 1940, by the successful Greek resistance against the Italian attack in the same year, by the Russian recovery in the winter of 1941, by the first British defeats at the hands of Rommel, by the early Japanese victories against the US and the British, by the swift US naval recovery post-Pearl Harbor, . . . and so on. The least of combat outcomes which did not evoke massive surprise is much shorter. Nor has the pattern been different since 1945, e.g. the unexpected North Korean success in 1950 and all four Arab-Israeli wars (the last one in a reverse direction.)

III. The Modalities of Perception

Complex though they are, the data which describe physical weapon capabilities will at least be uni-dimensional: if the range of a missile is stated at 5,000 miles, this will be so whether the audience for the statement is the high command of the RAF or an Indian peasant. By contrast, for the reasons listed above, perceptions of military power will differ as between different classes of perceivers.

We can distinguish between at least three classes:²⁵ (a) policy-makers and inner elite members with access to privileged information (and technical advice), and with a strong professional interest in politico-military issues; (b) media operatives and other opinion-makers with access to large information flows, not necessarily detailed and with a less concentrated interest in politico-military issues; (c) the general public, with access only to the data conveyed by mass media, and whose level of attention to politico-military issues varies from the very intense (e.g. in countries at war) to the very low, the latter being altogether more common.

A second distinction can be made a priori as between different types of national systems. For practical purposes, at least four categories of countries may be usefully distinguished:

Type I systems: economically-developed modern societies, with democratic forms of government. In these, the perceptions of all three classes have an impact on the total policy process. This group includes the United States, most NATO members, the Dominions, Israel and a few other countries.

Type II systems: highly centralized totalitarian societies. In these, only the perceptions of Class A (policy-makers and inner elite) will have an impact on policy-formation over the short-and medium term. This category includes the USSR and the CPR, Cuba, Vietnam and North Korea.

Type III: under-developed, modernizing larger states whose governance is authoritarian but not totalitarian. In these, the perceptions of classes A and B (opinion-makers), both count, but not the perceptions of class C (mass publics). This category includes Brazil, Egypt, India, and Iran.

Type IV: under-developed small states with ruling micro-elites which have no access to worthwhile privileged information. In these class A and class B perceivers cannot be usefully separated: both rely on imported mass-media information which is usually of Western origin. This category includes most of the 142 members of the U.N.

From the above categorization it can be deduced directly that the following groups of perceivers are of practical significance:

<u>Type I</u>	<u>Type II</u>	<u>Type III</u>	<u>Type IV</u>
A	A	A	None
B		B	
C			

The omission of class C perceivers in Type III countries follows by definition: even if their opinions counted for something in the policy-making process, there is no practical way of reaching this group. Radio media may convey facts and figures to this audience, but in the absence of the necessary context such facts and figures are bound to be virtually meaningless. The omission of all classes under Type IV is explained by the dependence of the one relevant group (the small ruling elite) on out-of-country information sources i.e. the general Western -- or more rarely Soviet -- media: while the former are already coveted under Type I Soviet media are in any case beyond reach. No matter what steps could be taken to enhance the visibility and perceptual impact of American power, controlled outlets such as TASS would process the information unfavorably.

It is obvious that the perceptions of class A observers in Type I and Type II countries are of central importance: they collectively determine those balances of perceived power which govern the external conduct of the most important states on the world scene. Nevertheless it is by no means self-evident that these two groups ought to be the principal targets of perceptual manipulation addressed specifically at these groups as opposed to all other groups would be optimal. This because class A observers in Type I and Type II countries are likely to be refractory to such perceptual manipulation:

while a shift in the perceptions of such groups would count for much more than a similar shift in the perceptions of any other groups, it is also likely to be very much more difficult to achieve. For one thing, it is to be expected that data derived from US actions would reach class A observers in both types of countries through the medium of sophisticated channels of information with a high technical content. Such channels ought to filter out factors that distort perceptions of military power, and the technical analysis of the incoming data will normally resist manipulation.

It remains to define -- a least conceptually -- what military-force characteristics are liable to be salient in the perception of non-technical observers. It may seem that any definition of the modalities of perception would have to comprise a detailed preliminary study of the entire disciplines of individual and group psychology, political science, international relations and so on.²⁶ But some exploratory studies explicitly directed at the problem, have already suggested a number of theoretical propositions which can be taken as a point of departure for actual field research.²⁷ What follows is a brief review of those propositions which seem most plausible.

(1) Time is discounted. The general tendency is to anticipate future changes in military capabilities. An obvious example is the public reaction to such events as the Soviet test of a fission device in 1949. The reaction was not that the Soviet Union would become more "powerful" in X years,

²⁶ See, for example, the (partial) bibliography in BDM/W-75-188-TR.

²⁷ I.e., WN-9013-ARPA; WN-8991-ARPA; Section 7 of R & D Associates Report of 25 September 1975; P-5402 (Rand).

when it would deploy operational forces equipped with fission bombs; it was rather that the Soviet Union had become more powerful, as of the time word of the fission test was released. Even though this foreshortening of time was based on error (i.e. the failure to take deployment lags into account), the impact was real nevertheless: the Soviet Union did become more powerful, in that its ability to deter or compel -- a function of others' reactions to its presumed capabilities -- increased as soon as the news of the fission test were released, by the United States.

Time is also discounted in a more subtle sense: there is a general tendency to aggregate military capabilities, economic resources and technical ingenuity into a common perception of power. While defense planners must contend with the fact that in a central conflict it will probably be impossible to convert economic resources into deployed military capabilities in a timely manner, it appears that even class B perceivers in Type I countries continue to treat the mobilization potential of societies as part of their current strength on the world scene.²⁸

The most direct consequence of the discounting of time is that in determining perceptions of military capabilities, especially in comparative terms, the impact of perceived rates of change may equal or outweigh the impact of current capabilities. A statement such as "in 1985 the Soviet air force will become more 'powerful' than the USAF unless . . ." is not perceived primarily as meaning that the USAF is more "powerful" now; instead it will tend

²⁸ If they did not, we would fare even worse in the balance of power-perceptions.

to enhance perceptions of Soviet air power in the present. The common practice of U.S. spokesmen, official and otherwise, of stressing Russian progress in this or that sector of the competition therefore has a particularly negative impact on third-party perceptions of the balance of power.²⁹

(2) There are sharp differences in the perceptual impact of different kinds of information about military capabilities, at any rate as far as non-technical observers are concerned. Initial guidance on the relative ease of absorption of different forms of information can be provided by the content of commercial advertising (correcting for cultural bias); this is particularly useful because of the objective feedback that guides its content (i.e. sales figures). By inference from the practices of commercial advertising, the following propositions may be derived:

a) Force-level figures are readily absorbed because numbers are conceptually simple in themselves, (as opposed to non-trivial qualitative information). However, if numerical descriptions of military forces are to have a strong perceptual impact, the units involved must be vividly meaningful to the audience. For example, "divisions," "tanks" and -- to a lesser extent -- "ICBMs" are meaningful units, in the sense that non-technical observers believe that they understand what these terms

²⁹ Especially since there is a tendency to extrapolate current rates of change (and their direction).

describe.³⁰ This is so even if in fact the meaning of these units is being misunderstood -- which is especially likely to be the case in comparisons of different national forces, where combat formations are often unequal in substance even if their nomenclature is identical.

(b) Further if numbers are to have an impact, context must be supplied, usually by means of comparisons. For example, the statement that the Soviet Union has 1,618 ICBMs may be interpreted to mean that the Soviet Union is weak, since a good many non-technical observers seem to think that the super-powers have "thousands" of ICBMs. By contrast, the statement that the Soviet Union has 1,618 ICBMs viz. 1,054 for the United States is readily understood in a broadly correct sense, (i.e. the Soviet Union has "more").

(c) While numbers are readily absorbed, they are not computed easily. Hence the perceptual impact of multiple numerical statements is actually likely to be degraded, unless the implication of the numbers is cumulative, (e.g. "The Soviet Union has 600 more

³⁰ Units may be meaningful without necessarily being impressive, as in the case of men-in-uniform counts. Most non-professional observers underestimate the importance of manpower per se.

ICBMs, and 200 more SLBMs . . . " viz. "The Soviet Union has 600 more ICBMs but 250 fewer bombers, 200 more SLBMs but 300 fewer cruise missiles . . . etc.").

(d) Performance data is not readily absorbed unless a clearly understood index of normality is provided. In describing the constituents of military power this will usually be a maximal benchmark, (e.g. the "world's fastest aircraft" viz. "aircraft flown at Mach 3.8").

(e) Qualitative information may be readily absorbed also, if it can be conveyed in visual terms, or at least in vivid verbal imagery. Non-technical observers can see an aircraft carrier, in life or photography. Past exposure to either will enable such observers to visualize aircraft carriers on the basis of non-visual information. By contrast, non-technical observers cannot visualize radar, sonar or EW equipment. The same consideration applies to the generally higher-impact information on capabilities-in-use. Again, non-technical observers can visualize the meaning of "three tank divisions advancing . . . " but they cannot visualize the (possibly much more striking) performance of radar, sonar or EW capabilities-in-use. Verbal imagery may be vivid and perceptually effective even when the operations described cannot be seen at all,

as in the case of a successful ballistic-missile intercept ("Like hitting a fly in outer space; like hitting a bullet with a bullet . . .").

(f) Actual personal exposure to the reality of on-going military activities can have a wholly disproportionate impact on perceptions of military capabilities. An observer exposed to the sights and sounds of flight-operations on board an aircraft-carrier may thereafter discount all kinds of less vivid information that would counteract his own personal impressions of formidable power (e.g. data on Soviet anti-carrier capabilities).

(g) Non-technical observers tend to be over-impressed by technologically-advanced qualitative features of military equipments, regardless of their actual contribution to force-effectiveness. Hence "nuclear aircraft-carrier" has a greater impact on non-technical perceptions than "aircraft carriers" (e.g. with Indian observers, 1971). Similarly, the importance of bombers may be discounted because of a tendency to regard them as "old-fashioned," as compared to ballistic missiles. (Given enough exposure, the cruise missiles may in

turn displace the ballistic missile as the advanced strategic weapon par excellence.)

As some of the above will have shown, perceptions find their place in frames of reference which are themselves the cumulative residue of earlier perceptions. The perceivers are "educated" progressively through exposure to successive layers of information. Most of the world's supply of data on military power emanates from the U.S. Department of Defense. The remainder largely originates from specialized publications with good access to U.S. Defense officials and defense contractors. Soviet and other adversary primary sources provide only a small fraction of the military data, and hardly any numerical data at all.

Similarly, information on military capabilities world-wide reaches the global audience -- elite or otherwise -- primarily through American media channels, notably the weekly newsmagazines, the major newspapers, news-agency reports and technical journals. Non-American Western media convey a distinctly smaller amount of data on military capabilities. Non-Western media, including Soviet media convey very little original data in fact even specialized Soviet military publications rely almost exclusively on data quoted from Western media in covering U.S., Soviet and CPR military capabilities.

IV. Implications for U.S. Defense Policy

The propositions set out above are no more than hypotheses; they need to be elaborated in much greater detail and then tested through opinion research, especially elite-opinion research.³⁰ But it is not premature to consider the possible implications for U.S. defense policy. Three broad policy approaches to the problem present themselves. The first would be to formulate and implement a purposeful information policy for the Department of Defense on the lines of institutional advertising.³¹ The idea would be to augment the political "output" by existing force-structures and modes of deployment by enhancing the images of power they generate, and by overcoming their perceptually negative features. Elements of such a policy

³⁰ Further theoretical analysis uninformed by field research is not likely to be very useful. Sophisticated analysts of military power are not particularly qualified to investigate the modalities of the perceptions of non-technical observers; indeed, their knowledge may amount to a disability.

³¹ This course should not be dismissed as too radical a departure from present practices, or even as inconsistent with constitutional obligations, and the realities of a free society, with free (and investigative) media. It should be apparent that a very high proportion of the data released by D.O.D. is already guided by the principles of institutional advertising, albeit in reverse. Its cumulative effect is to erode confidence in U.S. military power. A contrary policy of positive institutional advertising would be at least as consistent with constitutional requirements, with societal realities, and with a detached concern for the truth.

would range from, say, detailed and repeated explanations of the vast difference between Soviet and U.S. Army divisions, to the systematic exposure of elite observers to suitable U.S. capabilities in action (e.g. many more visits to aircraft carriers especially when engaged in flight operations), to the upward redesignation of combat formations. This cosmetic approach would require no actual changes in force-structures and modes of deployment.³²

The second approach would seek to change the reality, rather than to attempt to present an unchanged reality differently. An example of this more drastic approach -- which may entail more military-organizational costs than political benefits -- would be to restructure the ground formations of the U.S. Army so as to yield 32 smaller divisions instead of the planned 16, or even to produce 160 "combat groups" (=battalions). Another kind of structural change would be to change the configuration of USN warships so as to augment their visible armament (presumably at the expense of invisible but more useful capabilities). A non-structural change in the mode of operation of current forces, would be to increase the exposure of USN attack submarines. (Their capabilities are usually overlooked in the semi-official estimates of Soviet and US Naval capabilities in Mediterranean conflict scenarios which are now in circulation.) It is evident that if taken to extremes, this approach would lead to the deployment of "cardboard" military

³² The recent redesignation of US Navy warships -- whatever its motives -- is an example of such a cosmetic policy in action: Large destroyers have become cruisers, the patrol frigate has become a guided-missile frigate, and so on.

forces, on the lines of the Italian army and navy of the inter-war period, which were used in effect as theatrical props, to support an activist foreign policy.³³

But in a less extreme form, this approach is not to be dismissed. There are for example a good many tactical analysts who already advocate the abandonment of the large-division Army (and Marine) force-structure for purely military reasons, without regard to the (greater) perceptual impact of more units, albeit smaller ones. Similarly, there are a good many naval analysts who question the wisdom of continued investment in small numbers of very large hulls in the presence of the single-shot ship-killing missile. Again, such analysts argue the merits of more and smaller hulls independently of the possible impact on world-wide perceptions of US naval power that a larger fleet might have. Much the same line of argument is followed in regard to tactical aircraft and battle tank design. (The investment cost of a 35-ton tank with simple fire-control and other ancillaries might be not much more than a third of the expected XM-1 cost.) With regard to each of these questions controversy continues. In circumstances where the merits of the case are evenly divided on cost and military-effectiveness grounds, introduction of the perceptual factor under this second approach might legitimately swing the balance.

³³ With considerable success, it should be noted. Among other tricks of the trade, Italian Army units were paraded extensively for the benefit of the foreign press with the same trucks and tanks appearing before the reviewing stands again and again; budget allocations for ship construction were augmented by reducing O & M funds to a minimum, so that the beautiful ships of the Italian Navy sailed little, and trained their gun crews even less. Expenditure was allocated to visibles (ships, aircraft, guns) at the expense of invisibles (communications equipments, etc.), and so on.

There is finally a third approach to the problem, one which would avoid the extremes of the minimalist "cosmetic" approach on the one hand, and of the maximalist approach of perceptual-optimization on the other. This third approach would legitimize the perceptual dimension of defense policy, making it an accepted component of the overall problem of maximizing the political-military utility of the defense effort as a whole. Under this approach, estimates of the perceptual impact of the various alternatives under consideration would be taken into account in the decision-making process, along with the established variables of cost, technical performance, tactical effectiveness, strategic suitability and so on.

In practice, this would entail the development of "perceptual impact analyses" that would be injected on a routine basis, into the decision process on weapon-system procurement, force-planning and peacetime force-deployment. Detailed guidelines for the conduct of such "perceptual-impact analyses" cannot be developed in the abstract, but would require ad hoc formulation, consistent with the particular nature of the audience, the salient forms of communication and the major features of the pre-existing perceptual-political context. For example, a perceptual-impact analysis of a small augmentation (or reduction) of the US ground forces in West Germany would entail a different "audience" than a perceptual-impact analysis of the B.1 bomber program, and it would also entail different forms of communication and a different pre-existing context.

In the former case, it might be determined for example that the primary audiences are West German and other NATO class A and class B

groups, as well as the Chinese and Russian class A audience, more or less in that order of priority. The primary forms of communication are liable to be indirect, with the German mass public receiving the data through German media -- which are apt to transmit the information without the qualifications and mention of countervailing factors that the original official release is liable to include, and which American media are more likely to include. Salient features of the pre-existing perceptual-political context might include the high profile of Soviet ground capabilities, and the residual uncertainties that still attend the American commitment to European defense. In the second case on the other hand, the primary audience for the B.1 bomber program is the Russian class A group; the forms of communication will include internal Soviet intelligence channels, and the pre-existing perceptual-political context may include notions of manned bomber effectiveness -- a residue of backfire advocacy -- while the notion that bombers are generally "old fashioned" is much more likely to be prevalent among secondary audiences such as those of Western Europe.

Having determined what are the relevant audiences and forms of communication, and having defined the salient features of the pre-existing perceptual-political context, the next step would be to formulate tentative guidelines for the perceptual dimension of the decision. At this stage all sorts of questions would arise: Does the German public know how many US troops are in Germany? Or rather, what proportion of the public has a generally accurate notion of the number of troops? To what extent is the number of troops regarded by class A and B audiences as important per se in NATO deterrence? How does this square with the seemingly still prevalent idea

that NATO strategy is primarily strategic-nuclear, with a tripwire ground force component? Or is this idea no longer current? and so on. The hypothetical guidelines themselves. (generally based on the propositions set out in Part III above), and such subordinate questions would next have to be defined precisely so that they can be tested through actual opinion research, primarily elite-opinion research. Finally on the basis of tested theories a reasoned and documented perceptual input would be made into the decision process, alongside with the cost analysis, tactical strategic and branch-preference inputs. While never as exact as inputs based on actual (not planned) costs and actual (not expected) performance, the perceptual inputs thus developed should not entail conspicuously greater uncertainties than many of the established criteria which now govern defense decision-making. Politics and perceptual analysis are not exact sciences, but then neither is the study of war.

Especially in regard to the first example given above, it may be objected that the perceptual-political variables are already introduced into defense policy, notably through ISA and State Department interventions on such issues as US troop deployments in Europe and Korea, and the deployment of the Sixth Fleet. (In regard to the latter, the degree of detailed attention is such that consideration of the possibility of withdrawing one of the two carriers in the Fleet suffices to evoke strong State Department objections.) It is true that in these established practices there are the rudiments of a perceptual-political input for defense policy, but it is clear that this is a very inadequate for it is confined to a very few issues, notably deployment decisions of particularly high visibility. There are no

such ISA/State Department inputs for force-structure planning or weapon-system procurement decisions, and neither does it seem likely that these agencies would be qualified to provide detailed and continuing guidance on the perceptual-political dimension of these areas of decision..

V. Conclusion*△ This author argues*

It was argued above *△* that it is not possible to extract the maximum politico-military benefit from the nation's expenditure on its military forces, unless explicit consideration is given to the perceptual effects of their configuration, structure and modes of deployment. It ^{is} was further argued that it is well within the scope of the relevant disciplines and methods to evaluate such perceptual effects in a manner sufficiently unambiguous to allow the resulting data to be introduced in the decision-making processes of the Department of Defense. (This last proposition may be tested through case studies of perceptual-impact analyses of major decision alternatives.) It remains to devise procedures whereby the perceptual dimension of defense policy can be integrated within the established processes of decision. *△* This last problem fortunately transcends the scope of the present study.

APPENDIX

POWER AND FORCE: Definitions and Implications

Military power is normally defined, in functional terms, more or less as follows: "...the ability of states to affect the will and behavior of other states by armed coercion or the threat of armed coercion."⁽¹⁾ Such a definition clearly does not allow for any meaningful differentiation between power and force; indeed the quoted author immediately adds, "It (military power) is equivalent to 'force,' broadly defined."⁽²⁾ It is here argued, by contrast that "power" is a phenomenon much broader than force, even if "broadly defined."

Power itself, power tout court (but always as a relation rather than a unit of measurement), has been the subject of countless definitions,⁽³⁾ including some so general as to define very little indeed (e.g. "man's control over the minds and actions of other men," in a popular textbook)⁽⁴⁾. One modern definition analyzes the power relation in its components, treating power-in-

(1) Actually, by Robert E. Osgood in Robert E. Osgood and Robert W. Tucker, Force, Order and Justice (Baltimore: Johns Hopkins Press, 1967), Pt. 1, p. 3.

(2) Ibid.

(3) See, for example, Roderick Bell, David V. Edwards, R. Harrison Wagner, Political Power: A Reader in Theory and Research (New York: The Free Press, 1969), a compendium of definitions in modern American political science.

(4) Hans J. Morgenthau, Politics among Nations (New York: Alfred A. Knopf, 1962), p. 25.

action as a dynamic manipulative relationship, of which power tout court is an instrumentality that includes diverse elements in a continuum from positive incentives (5) to coercion. In this fuller definition, voluntary compliance is attributed to "authority," while the absence of coercion or the threat thereof in non-voluntary (6) compliance is said to reveal the working of "influence."

Other modern definitions deliberately combine the notions of power and influence, treating both as actor- (7) directed relationships, whose nature can be viewed in terms of "intuitive notions very similar to those on (8) which the idea of force rests in mechanics," Newtonian mechanics, that is. Not surprisingly, less formal definitions obscure entirely any distinction between (9) power and force, beginning (and sometimes ending) with some such phrase as "power is the ability to force...."

(5) Peter Bachrach and Morton S. Baratz, Power and Poverty (New York: Oxford University Press, 1970), pp. 17-38.

(6) Ibid.

(7) e.g. Robert A. Dahl, Modern Political Analysis (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1963), pp. 39-54.

(8) Dahl, Modern Political Analysis, p. 41.

(9) For a notable exception, see P. Bachrach and M. S. Baratz, "Decision and Nondecision: An Analytical Framework," American Political Science Review, Vol. 57 (1963), pp. 632-642, where the distinction is made clear and where it is pointed out that it is non-compliance with the orders of the powerful that imposes on the latter the costs of using force.

Now these definitions may be adequate for a variety of analytical purposes, but not for our own. In seeking to evaluate the efficiency of systems ^{of} security, we note first of all that power, as an aggregate of external-action capabilities, denotes the overall "output" of the system. (Power rather than security, for that depends also on the level of the threat, a variable external to the system.)

Next, we observe that the efficiency of such systems is defined by the relationship between the power generated (=output), and the costs to society of operating the system (=inputs) -- these being the direct costs of force-deployments and of military infrastructures, as well as the hidden costs that may be imputed to methods of discretionary defense (i.e. defense-in-depth, and "elastic" defense), where societal damage is inflicted by enemy action which is temporarily unopposed for strategic (=systemic) reasons.

Other things being equal, the efficiency of such systems must be inversely proportional to the degree of reliance on force, since the force generated will require a proportional input of human and material resources. In fact, the efficiency of the systems will reflect their "economy of force."

It follows that while in a static perspective force is indeed a constituent of power, in dynamic terms on the other hand force and power are not analogous at all but rather in a sense opposites, one being an input and the other an output -- with efficiency requiring the minimization of the former, and the maximization of the latter. Evidently we cannot rely on definitions that nullify the difference (in dynamic terms) between force and power, and must provide our own definitions instead.

Of these, the definition of force is by far the simpler. We know how force is constituted: in direct proportion to the quantity and quality of the inputs, whether these are armored divisions, or helicopter battalions or, at a different level of analysis, men, equipment or fuels. We know how force "works": by direct application on the field of battle, or in active (non-combat) deployments. It is true that force also works indirectly (=politically), since its mere presence -- if recognized -- may deter or compel. But the
(10)
indirect suasion of force, though undoubtedly a poli-

(10) For a development of the concept of "suasion," descriptive of the actual process resulting from the presence, display or symbolic application of force, see Edward N. Luttwak, The Political Uses of Seapower (Baltimore: Johns Hopkins Press, 1974). (The context is naval but the theory is of general applicability.)

tical rather than a physical phenomenon, occurs only in the narrowest "tactical" dimension.

Accordingly, while bearing in mind this qualification, we may treat force-in-operation as essentially analogous to a physical phenomenon, one truly comparable to the concept of force in (Newtonian) mechanics. Both are consumed in application; both wane over distance to a degree which is dependent on the particular means of conveyance (or the medium of transmission); both are characterized by perfect proportionality between qualitatively equal units. In other words, military force is indeed governed by constraints on accumulation, use, transmission and dispersion akin to the physical laws that condition mechanical force.

How does power "work"? Very differently. First, not by causing effect directly but rather by eliciting responses -- if all works well -- the desired responses. The powerful issue an order, and those subject to their power obey. But in so doing, the latter are not the passive objects of the power-relation (as is the case with the objects of force) but rather the actors, since it is those who obey who themselves carry out the action required of them.

The powerful who merely issue the order only have a static attribute, i.e. "power", while it is the

actor-objects of this power that supply the dynamic
 (11)
 "energy" in their obedience. It follows immediately
 that the physical constraints which impose a proportion-
 ality between the amount of force applied (and consumed
 in the process) and the results obtained, does not
 apply to the power relation. One, two or a thousand
 prisoners of war who walk to their place of internment
 in response to an order which they choose to obey, do
 not consume the power to which their obedience is a
 response; as against this, the physical removal of fifty
 demonstrators requires much less force than the removal
 of fifty thousand. In the latter case there is a rigid
 proportionality between the force-inputs and the output;
 in the former there is no such proportionality.

All this merely describes the power relation without
 explaining it. Next we must ask why some men obey others.
 Or, in other words, what are the processes whereby
 desired responses can be elicited in the minds of men,
 causing them to act in the manner required of them.

(11) Peter Blau, Exchange and Power in Social Life
 (New York: John Wiley, 1964), compares power to status
 but then goes on to treat it as capital, expendable
 capital. Cf. Talcott Parsons, "On the Concept of Poli-
 tical Power" in Political Power: A Reader in Theory and
Research, pp. 256-257, where power is defined in terms
 comparable to money, thus also suggesting its exhaustion
 in use.

Clearly the actor-objects of the power relation decide
(12) to obey; assuming rationality, obedience or the lack of it must reflect a comparison between the costs and benefits of obedience versus defiance. (Though the comparison may be rudimentary to the point of having been internalized into a mental habit, with obedience reflexive rather than deliberate. Such routinized processes merely reflect the ingrained results of prior comparisons of costs and benefits.)

At this point it would seem that power is easily defined as the ability to control the flows of costs and benefits to others, with force being merely a subordinate ability to impose a particular kind of cost through coercion or destruction. If this were indeed so, then our analysis would have fruitlessly returned to its
(13) starting point, and the differentiation here being pursued between power and force would have to be abandoned. For it would appear that the "ability to control costs and benefits" must be subject to the same limiting proportionality between inputs and outputs as the ability to apply force, or force tout court.

(12) In the value-free sense of an alignment of ends and means which is intended to optimize the former, whatever they may be.

(13) i.e. to the Bachrach-Baratz definition; see note 5, above.

But this is not so. The ability to elicit desired responses through the decisions of the actor-objects of the power relation is plainly not a function of the ability to control costs and benefits, but rather of the perceived ability to do so. In other words, the first stage of the power-process is perceptual, and power is therefore in the first instance a subjective phenomenon; it can only function through the medium of others' perceptions. This means, of course, that power processes will be governed in the first instance by the phenomena of perception. And that perceived force, rather than force itself, is a key constituent of power.